COLLECTIONS TOWARDS A GLOSSARY OF ARCHITECTURE.

TO THE EDITOR OF THE BUILDER.

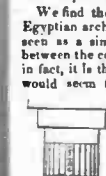
SIR,—I beg to inclose to you a few suggestions for the formation of an architectural vocabulary or glossary, a branch of architectural literature which is, perhaps, in a state more imperfect than any other.

I am, Sir, your humble servant,

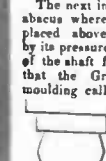
G. R. F.

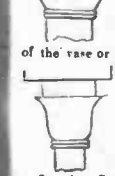
ABACUS.—This word is thus defined by Mr. Gwilt in the glossary of terms in his admirable Encyclopædia of Architecture:—"Abacus (Gr. *abax*, a slab). The upper member of the capital of a column, and serving as a crowning both to the capital and to the whole column. It is otherwise defined by some as a square table, list, or plinth, in the upper part of the capitals of columns, especially of those of the Corinthian order, serving instead of a drip or corona to the capital, and supporting the nether face of the architrave, and the whole trabeation. In the Tuscan, Doric, and ancient Ionic orders, it is a flat square member, well-enough resembling the original title, whence it is called by the French *tailloir*, that is, a trencher, and by the Italians *credenza*. In the richer orders it parts with its original form, the four sides or faces of it being arched or cut inwards, and ornamented in the middle of each face with a rose or other flower, a fish's tail, &c.; and in the Corinthian and Composite orders it is composed of an ovolo, a fillet, and a cavetto. The word is used by Scamozzi to signify a concave moulding in the capital of the Tuscan pedestal." (p. 885.)

We find the abacus in its simplest form in Egyptian architecture, where it is sometimes seen as a simple cube of stone intervening between the column and the architrave above, in fact, it is the capital itself. Of this, which would seem to be the earliest form of the abacus, two specimens are given by Mr. Gwilt in his edition of Chambers's Architecture, both communicated by Mr. C. Barry: one of these is here introduced.

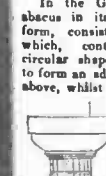


The next in order appears to be that form of abacus wherein the same square tablet being placed above the bundle of reeds, produces by its pressure that swelling out of the head of the shaft from which it is not impossible that the Greeks derived a hint for the moulding called the echinus; for examples of this kind the reader is referred to page 449 of THE BUILDER (No. 37). We generally find that the over-hanging abacus is used in Egyptian columns where the capital has a bulbous or cushion shape, but where the capital partakes of the vase or bell shape, and is flowered, the abacus is found to recede. (See also p. 483 of THE BUILDER.) In the Indian early architecture of the cavern temples, the abacus much resembles in its massive overhanging character that of Egyptian capitals.



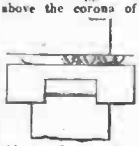


In the Grecian Doric we behold the abacus in its simplest and most beautiful form, consisting of a quadrilateral figure, which, contrasting favourably with the circular shape of the column below, seems to form an admirable bed for the entablature above, whilst it is connected with the shaft by the graceful outline of the echinus. It is sometimes found with a very remarkable projection beyond the lower diameter, which is considered as an indication of the antiquity of the buildings in which it is so found, as at Corinth, Pæstum, Ægesta, &c.

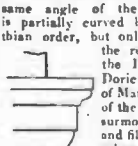


Those writers who discover for every part of Greek architecture, a corresponding prototype in timber construction, derive the abacus from the intervention of a cube of wood between the architrave and the sustaining shaft, so placed to protect by its overhanging the column, and to afford a broader bed for the entablature to rest upon. But this doctrine can hardly apply to Egyptian architecture, unless that can be proved throughout to be derived from an imitation of the construction of timber houses.

In Ionic and Corinthian capitals, the abacus, losing its plain and massive character so suitable to the simplicity of the Doric order, becomes in a degree assimilated to the greater richness of the two later orders, by being moulded and sometimes carved in imitation mostly of the mouldings which are found in members of the entablature belonging to the same example; thus in the abacus of the Ionic capitals in the Temple of Minerva-Polias, there is a repetition of the egg-and-tongue enrichment found above the corona of the cornice, whilst in many of the Corinthian examples at Rome the abacus is either carved with the egg-and-tongue or egg-and-anchor ornament, or cut into foliage of various designs, having in the centre of each of its incurvated sides a flower or other enrichment. The reputed temples of Jupiter Stator and Jupiter Tonans afford rich examples of this kind.



In the Doric and Corinthian orders, the abacus is that member of the capital which has the greatest projection, but in the Ionic, the volutes of necessity project beyond it, consequently the abacus recedes, bearing therefore, in this respect, a resemblance to its position in those Egyptian capitals wherein heads of Isis are introduced, and which have been considered by some writers to furnish the origin of the Ionic capital. In their application of the abacus we perceive the admirable knowledge of effect possessed by the Greeks; in each case usefulness is joined to beauty. In the Doric, the ponderous form of the abacus is evidently best fitted for the heavy weight above, and affords a shelter to the shaft below it; this projection and heaviness would in the Ionic capital be fatal to the effect of the volutes, whilst in the Corinthian capital the abacus, by its concave form, harmonizes with the outline of the vase, and the horns serve to protect the graceful and delicate volutes below. In some Corinthian examples the horns of the abacus terminate in a sharp point, as in the Temple of Vesta, at Rome; in others, and most frequently so, the horns are blunted, the angles being taken off at a right-angle with the diagonal of the square of the capital, that is at an angle of 45° from the front of the abacus. In the Grecian examples of the Ionic, and in the Roman one of the Temple of Fortuna Virilis, where the columns at the angles of porticos have their outer volutes turned diagonally, so as (instead of the ordinary cushion pillow or drum on one side) to present externally the same appearance on each of the two sides meeting together at the same angle of the building, the abacus is partially curved like that of the Corinthian order, but only on the outer angle, the rest being square, as in the Doric. In the Roman Doric order (as in the Theatre of Marcellus) the square abacus of the Greeks is retained, but surmounted by a cyma-reversa and fillet, and this practice, so subversive of the simplicity of the original, is followed by many of the modern school.



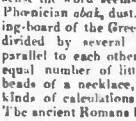
The Tuscan abacus consists of a fillet, cavetto, and band, according to Vignola and Chambers. Describing a Corinthian capital, Vitruvius says, "The breadth of the abacus is so regulated that its diagonal from angle to angle may be twice as much as the height of the capital, for this gives a proper dimension to each of its faces. The fronts of the abacus are bowed inwardly from its extreme angles a ninth part of its breadth; the thickness of the abacus is the seventh part of the height of the capital." This description is found to agree very nearly with the capital of the Pantheon at Rome. The practice of modern days, of sometimes omitting the abacus altogether, cannot be too strongly reprobated.

The abacus is found as a columnar crowning member in every period or style of Gothic architecture. Mr. Britton's definition is as follows: "In Christian architecture, the abaci form the bases of arches, and its shape and ornament are greatly diversified. Mr. Rickman thinks that the square abacus is a sure guide to distinguish the Norman from what he calls the early English (p. 55), but several examples of Norman buildings may be pointed out where the abaci are circular and octangular." In buildings which have been considered to belong to the Anglo-Saxon period, arches frequently spring from an impost which consists of a plain abacus, sometimes with its under edge chamfered. In the Norman and later styles the abacus is the crowning portion of the capitals of columns or piers, and it is found in many varieties of shape, as square, multangular, and circular, all of which, but more usually the first, may be seen in Norman examples; the following is a very common form. In the later styles, the abaci usually follow the plans of the columns, whether clustered, circular, or multangular. In the Norman style we see, in its square and simple character, a close resemblance to the Grecian and Roman Doric abacus; it is also found cut into fillets. In the early English, Decorated, and Perpendicular styles, the abacus consists of many mouldings, such as quarter-rounds, with deep hollows between ogees and inverted ovolos, and numerous fillets; the variety, in fact, is almost infinite.

Besides the strictly architectural sense in which we have just explained, in a very imperfect manner, the meaning of this word among the ancients, it signified also a *sideboard*, in which sense it appears from Livy and Sallust to have been borrowed by the Romans from the Asiatic Greeks, and to have been used for holding vases and other vessels necessary for a banquet. From the same authors we learn that the abacus thus applied was sometimes made of the most rare and precious woods, covered with gold and inlaid with ivory. From remains found at Pompeii and Herculaneum, the abacus in houses of moderate size was no more than a marble slab or table, without feet, attached to the wall, and capable of being let down after the service, in fact, it was what we should term a hanging-flap. To such a sideboard Horace alludes when he says

"Lapis albus—pocula cum cistho duo sustinet"

(that a *white stone* supported two cups with a cyanthus). Juvenal, in describing the abacus of the poor poet Codrus, says, that it was ornamented with six little water-ewers or pitchers, beneath it a small cantharus, and a reclining figure of Chiron. At Pompeii was found a slab (abacus), above which, as over a modern dresser, are shelves to hold plates, dishes, &c. Among mathematicians the abacus signified a little table or board, rubbed with wax and strewed over with dust or sand, on which they drew their schemes and figures; in this sense the word seems to be formed from the Phœnician *abak*, dust.* The abacus, or counting-board of the Greeks, was an oblong frame, divided by several brass wires, stretched parallel to each other, and mounted with an equal number of little ivory balls like the beads of a necklace, by means of which all kinds of calculations were easily performed. The ancient Romans had, and the Chinese now have, similar apparatus for reckoning with: and at the present day the abacus of the ancients is made an useful toy whereby children are taught to reckon, and may be found in every toy-shop in London.



* אבק, or perhaps from עבה, finger, and עב, oblong: the idea may arise from an oblong fingers board which an abacus of the kind indeed is.

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